AMENDMENTS TO THE CLAIMS

Please cancel claim 3, amend claims 1, 2, 4-6 and 8, and add new claims 10-28. No new matter is believed to be introduced as a result of the aforementioned amendments and new claims.

1. **(Currently amended)** A method of manufacturing an x-ray tube component ~~for use in an x-ray generating apparatus~~, the method comprising ~~the steps of~~:

forming a substrate material into [[the]] a shape of the x-ray tube component;

depositing a first bond coating on the substrate; and

depositing a radiation shielding coating on the first bond coating ~~substrate, the coating comprising a material that limits the amount of x-radiation that is able to pass through the coated portion of the substrate material to a predetermined level~~.

2. **(Currently amended)** A method as defined in claim 1, wherein ~~the depositing the coating step~~ deposition of the radiation shielding coating is performed with a plasma spraying process.

3. **(Canceled)**

4. **(Currently amended)** A method as defined in claim [[2]] 1, wherein ~~the depositing the bond coating step~~ deposition of the first bond coating is performed with a plasma spraying process.

5. **(Currently amended)** A method of manufacturing an x-ray tube housing ~~for use in an x-ray generating apparatus~~, the method comprising ~~the steps of~~:

forming a substrate metal material into the shape of the housing;

plasma spraying a bond layer onto at least a portion of the surface of the substrate;

plasma spraying a powder metal material over at least a portion of the bond layer so as to create an x-ray shield layer on the substrate, the powder metal material comprising at least one powder metal that is a dense x-ray absorbing material; and

continuing the plasma spraying [[step]] until the thickness of the x-ray shield layer is at least approximately .085 inches.

6. **(Currently amended)** A method of manufacturing as defined in claim 5, wherein the substrate metal material is selected from one of the following: [[Kovar]] an alloy comprising about 29% nickel, about 17% cobalt, and about 53% iron; Alloy 46; nickel; copper; stainless steel; molybdenum; and alloys of the foregoing.

7. **(Original)** A method of manufacturing as defined in claim 5, wherein the powder metal material further comprises at least one powder metal having a thermal expansion characteristic that is substantially similar to that of the substrate metal material.

8. **(Currently amended)** A method of manufacturing as defined in claim [[6]] 7, wherein the powder metal material having the thermal expansion characteristic is iron.

9. **(Original)** A method of manufacturing as defined in claim 5, wherein the powder metal that is a dense x-ray absorbing material is tungsten.

10. **(New)** A method as defined in claim 1, wherein the radiation shielding coating has a thermal expansion coefficient that is substantially similar to a thermal expansion coefficient of the substrate.

11. **(New)** A method as defined in claim 1, wherein the radiation shielding layer includes a proportion of iron that falls in a range of zero percent to about 50 percent

12. **(New)** A method as defined in claim 1, wherein the radiation shielding layer comprises about 10 percent iron and about 90 percent tungsten.

13. **(New)** A method as defined in claim 1, wherein the radiation shielding layer includes at least one material selected from the following group: tungsten; copper; molybdenum; tantalum; steel; bismuth; lead; nickel; aluminum; cobalt; and, an alloy of one or more of tungsten, copper, molybdenum, tantalum, steel, bismuth, and lead.

14. **(New)** A method as defined in claim 1, further comprising applying a second bond layer to the radiation shielding coating.

15. **(New)** A method as defined in claim 14, wherein the second bond layer includes copper.

16. **(New)** A method as defined in claim 14, wherein the second bond layer is applied by a plasma spray process.

17. **(New)** A method as defined in claim 1, further comprising plating at least a portion of the substrate.

18. **(New)** A method as defined in claim 17, wherein material used in the plating substantially comprises nickel.

19. **(New)** A method as defined in claim 1, further comprising heating the x-ray tube component in a wet hydrogen environment.

20. **(New)** A method as defined in claim 2, wherein the plasma spray process comprises one of: atmospheric plasma spraying; low pressure plasma spraying; high velocity oxy fuel plasma spraying; and, plasma jet spraying.

21. **(New)** A method as defined in claim 4, wherein the plasma spray process comprises one of: atmospheric plasma spraying; low pressure plasma spraying; high velocity oxy fuel plasma spraying; and, plasma jet spraying.

22. **(New)** A method of manufacturing an x-ray tube component, comprising:

forming a substrate material into a shape of the x-ray tube component;

applying a first bond layer to at least a portion of the substrate;

depositing a radiation shield layer on the first bond layer; and

applying a second bond layer to at least a portion of the x-ray shield layer.

23. **(New)** The method as recited in claim 22, wherein at least one of the following is performed by way of a plasma spray process: applying the first bond layer; depositing the radiation shield layer; and, applying the second bond layer.

24. **(New)** The method as recited in claim 22, wherein the radiation shield layer is applied using a powder metal mixture.

25. **(New)** The method as recited in claim 22, wherein the substrate substantially comprises one of: an alloy comprising about 29% nickel, about 17% cobalt, and about 53% iron; Alloy 46; nickel; copper; stainless steel; molybdenum; and alloys of the foregoing.

26. **(New)** The method as recited in claim 22, wherein the radiation shield layer includes at least one material selected from the following group: tungsten; copper; molybdenum; tantalum; steel; bismuth; lead; nickel; aluminum; cobalt; and, an alloy of one or more of tungsten, copper, molybdenum, tantalum, steel, bismuth, and lead.

27. **(New)** The method as recited in claim 22, wherein the radiation shield layer comprises a combination of iron and tungsten.

28. (New) The method as recited in claim 22, wherein the first bond layer is applied by one of: mechanical etching of the substrate; or, chemical etching of the substrate.

29. (New) The method as recited in claim 22, further comprising heating the x-ray tube component in a wet hydrogen environment.

30. (New) The method as recited in claim 22, further comprising plating at least a portion of the substrate.